L Number	Hits	Search Text	DB	Time stamp
1	2	BARBER NEAR ELIZABETH	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 12:54
2	222	human WITH dystrophin WITH gene	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 13:24
3	3	(human WITH dystrophin WITH gene) and CD33	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 13:19
4	3	apo NEAR dystrophin	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 13:21
7	1	apo-dystrophin-4	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 13:22
8	0	apo NEAR dystrophin-4	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 13:22
9	0	apo NEAR dystrophin NEAR (apo NEAR dystrophin)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 13:23
10	29	(human WITH dystrophin WITH gene) and inversion	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 13:23
11	8	(human WITH dystrophin WITH gene).clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 13:25
12	80	(human WITH dystrophin WITH gene) and (regulatory WITH element)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 13:26
14	2	(human WITH dystrophin WITH gene) SAME (regulatory WITH element)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/04/15 13:26
15	3	(US-5928867-$).did. or (US-20020099015-$).did. or (GB-2368064-$).did.	USPAT; US-PGPUB; EPO	2004/04/15 13:27

=> d his

(FILE 'HOME' ENTERED AT 13:27:56 ON 15 APR 2004)

FILE 'MEDLINE, AGRICOLA, CANCERLIT, SCISEARCH, CAPLUS, MEDICONF' ENTERED AT 13:28:15 ON 15 APR 2004

```
                E BARBER ELIZA?/AU
L1            2 S E4
L2            4 S E5
L3            6 S L1 OR L2
L4            6 DUP REM L3 (0 DUPLICATES REMOVED)
L5            1 S APO-DYSTROPHIN-4
L6           74 S APO-DYSTROPHIN?
L7           78 S APO (L) DYSTROPHIN
L8        10301 S DYSTROPHIN
L9            1 S L6 AND (REGULATORY ELEMENT)
L10           1 S L7 AND (REGULATORY ELEMENT)
L11          64 S L8 AND (REGULATORY ELEMENT)
L12           1 S L9 OR L10
L13          37 DUP REM L11 (27 DUPLICATES REMOVED)
L14          18 S L13 AND PY<=2000
L15          18 FOCUS L14 1-
L16      549331 S APO?
L17        1016 S APO? (L) REGULATORY ELEMENT
L18           1 S L17 AND DYSTROPHIN
```

=> d an ti so au ab pi l18

L18 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:655353 CAPLUS

DN 137:164721

TI Human apo-**dystrophin**-4 gene, its 3' UTR inversion element, associated proteins and peptides, and therapeutic use thereof

SO Brit. UK Pat. Appl., 222 pp.
CODEN: BAXXDU

IN Barber, Elizabeth

AB The invention provides full-length cDNA sequences for a human putative low-affinity ligand for CD33 termed **apo-dystrophin**-4 (also called **apo**-4, with 70% homol. to **dystrophin** gene) isolated through the panning process using Fc-CD33 as ligand probe to screen placenta cDNA library. The **apo-dystrophin**-4 cDNA contains three AUG codons (+25, +88, +100), 23 stop codons, several splice sites, cap sites, CAAT boxes, polyA sites, polyT region, inverted repeats, and direct repeats. A 137-bp region 1.62kb (size of the major **apo**-4 transcript) downstream in the 3' UTR in the reverse orientation of **apo-dystrophin**-4 gene, homologous to **dystrophin** gene, is identified as an important **regulatory element**. The inversion at gene **apo-dystrophin** -4 3' end appears necessary for the production of its two major protein products, 50Kd and 40Kd. The predicted protein sequences with all the stop codons suppressed are provided. Furthermore, three peptides are selected from **apo-dystrophin**-4 protein named as P1 (MYPIMEYSCSDRN), P2 (YIYIGNLNVADTM) and P3 (DDLGRAMESLVSVMTDEE) are used to prepare antisera to characterize **apo-dystrophin**-4 gene products. In vitro transcription and translation demonstrates that the full-length **apo-dystrophin** transcript produces proteins of 40 Kd and 50Kd under reducing conditions. The proposed potential **apo-dystrophin**-4 activation mechanism includes inserting an inverted sequence containing the basic hallmarks of a retrovirus or transposable element into a specific target site in the **dystrophin** gene prior to splicing and most likely during gene rearrangement, and reading through stop codons. The invention is of use in gene therapy, especially for diseases involving gene truncation, such leukemia.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2368064	A1	20020424	GB 2001-1124	20010116
	GB 2368064	B2	20021113		
	US 2002099015	A1	20020725	US 2001-966264	20010928

=> d an ti so au ab pi l15 1 3 4 9 10

L15 ANSWER 1 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:421461 CAPLUS
DN 117:21461
TI Positive and negative regulatory DNA elements including a CCArGG box are involved in the cell type-specific expression of the human muscle **dystrophin** gene
SO Journal of Biological Chemistry (**1992**), 267(15), 10823-30
CODEN: JBCHA3; ISSN: 0021-9258
AU Gilgenkrantz, Helene; Hugnot, Jean Philippe; Lambert, Martine; Chafey, Philippe; Kaplan, Jean Claude; Kahn, Axel
AB The muscle-specific promoter of the **dystrophin** gene is active in skeletal, cardiac, and smooth muscles and is specifically stimulated during differentiation of myoblasts into multinucleated myotubes. An 850-base pair (bp) DNA fragment upstream from the cap site is able to confer a partial muscle specificity to a reporter gene. The region between -850 and -140 bp includes nonspecific neg. and pos. regulatory sequences. A continuous stretch of 140 bp upstream from the cap site exhibits a striking conservation between rodents and human (93% homol.) and still retains muscle preference of expression. It contains two putative binding sites for factors involved in regulation of other muscle-specific genes, a CCArGG box and an E box. This latter element, however, is unable to confer the ability to be transactivated by MyoD1 to the **dystrophin** promoter. The -140-bp promoter fragment exhibits antagonist effects contributed by one inhibiting sequence (nucleotide -140/-96), active in all cell types, and one activating region, from nucleotide -96 to the cap site, sufficient to confer a muscle preference of expression, in which the CCArGG box seems to play a major role.

L15 ANSWER 3 OF 18 MEDLINE on STN
AN 97371678 MEDLINE
TI A 900 bp genomic region from the mouse **dystrophin** promoter directs lacZ reporter expression only to the right heart of transgenic mice.
SO Development, growth & differentiation, **(1997 Jun)** 39 (3) 257-65.
Journal code: 0356504. ISSN: 0012-1592.
AU Kimura S; Abe K; Suzuki M; Ogawa M; Yoshioka K; Kaname T; Miike T; Yamamura K
AB In order to study the regulatory mechanism of developmental and tissue-specific expression of the muscle type **dystrophin** gene in mice, transgenic mice were generated carrying the 900 bp genomic fragment derived from the muscle type **dystrophin** promoter region fused to the bacterial lacZ gene. Six independent transgenic mouse lines showed specific reporter gene expression in the right heart, but not in skeletal or smooth muscle. The reporter gene expression was first detected in the presumptive right ventricle of the embryos at 8.5 days post coitum and the expression continued only in the right ventricle throughout the development and at the adult stage. The results indicate that the 900 bp genomic fragment contains the **regulatory element** required for expression of **dystrophin** only in the right heart, suggesting that distinct elements are responsible for the expression in the left and right compartments of the heart, and/or in skeletal and smooth muscle cells. Based on these findings, the relationship between defects in muscle type promoter and the diseases caused by abnormal **dystrophin** expression is discussed.

L15 ANSWER 4 OF 18 MEDLINE on STN
AN 97247932 MEDLINE
TI 2.1 kb 5'-flanking region of the brain type **dystrophin** gene directs the expression of lacZ in the cerebral cortex, but not in the hippocampus.
SO Journal of the neurological sciences, **(1997 Mar 20)** 147 (1) 13-20.
Journal code: 0375403. ISSN: 0022-510X.
AU Kimura S; Abe K; Suzuki M; Ogawa M; Yoshioka K; Yamamura K; Miike T
AB Duchenne muscular dystrophy is a muscle-wasting disease accompanied by a variable, but often significant degree of mental retardation, possibly due to the absence of **dystrophin**. However, the function of brain

type **dystrophin** remains insufficiently clear. With this background, in order to study the cell-specific regulation of brain type **dystrophin** expression in mice, we generated transgenic mice carrying the 2.1 kb 5'-fragment of the mouse brain type **dystrophin** gene, fused to the coding region of the bacterial lacZ gene. Three transgenic mice lines showed lacZ expression in the cerebral cortex. However, lacZ expression was not detected in the CA region of the hippocampus. These results suggest that the 2.1 kb 5'-fragment of the mouse brain type **dystrophin** gene contains the **regulatory element** required for its expression in the cerebral cortex, but not in the hippocampus.

L15 ANSWER 9 OF 18 MEDLINE on STN
AN 95003686 MEDLINE
TI Expression of a recombinant **dystrophin** in mdx mice using adenovirus vector.
SO Neuromuscular disorders : NMD, **(1994 May)** 4 (3) 193-203.
Journal code: 9111470. ISSN: 0960-8966.
AU Alameddine H S; Quantin B; Cartaud A; Dehaupas M; Mandel J L; Fardeau M
AB Genetic deficiencies may be compensated by delivery of the appropriate gene to the affected tissue(s) by somatic gene transfer. In this study, recombinant adenoviruses (defective for replication) carrying a cDNA coding for a truncated **dystrophin** or 'minidystrophin' (Ad.dys), associated to adenoviruses carrying a beta-galactosidase reporter gene (Ad.beta gal), were administered locally to evaluate the biochemical correction of the genetic defect in mdx mice mutants. Both genes were placed under the control of muscle specific **regulatory elements**. Two weeks after a single intramuscular injection of Ad.dys, injected muscles showed a significant increase in the percentage of **dystrophin** positive fibres when compared to muscles either untreated or injected with Ad.beta gal only. Intramuscular injection of the adenoviral expression vectors elicited a local deleterious effect on muscle morphology, rarefaction of myofibres at the site of injection, calcifications and fibrosis were much more marked in comparison to control muscles injected with vehicle. beta-galactosidase was exclusively expressed within myofibres in a segmental fashion. Regional co-localization of beta-galactosidase and **dystrophin** expression gives further support to the demonstration of adenoviral induced expression of the recombinant genes.

L15 ANSWER 10 OF 18 MEDLINE on STN
AN 1998038989 MEDLINE
TI Conservation of a putative AP1 binding site and complete homology to a fetal brain EST in a region upstream of the core muscle promoter in the human **dystrophin** gene.
SO Gene, **(1997 Oct 24)** 200 (1-2) 173-6.
Journal code: 7706761. ISSN: 0378-1119.
AU Patarnello T; Klamut H J; Danieli G A; Bettecken T; Fracasso C
AB A region of 744 basepairs (bp) upstream of the muscular **dystrophin** promoter (UMDP) was amplified by inverse-polymerase chain reaction (PCR), cloned and sequenced. Analysis of this sequence for the presence of putative transcriptional control elements identified several similarities with known cis-acting sequence motifs including two MyoD and two Ap1 motifs. One of these Ap1 motifs was found to be completely conserved within an otherwise highly variable region among five primate species. Complete homology to a human fetal brain expressed sequence tag (EST) was also observed over 201 bp at the 5' end of the UMDP region. Northern blot analysis using a radiolabelled EST probe identified a 1 kb mRNA expressed in human placenta and at lower levels in the heart. These results raise the possibility that additional transcriptional **regulatory elements** are located upstream of the core muscle promoter, and provide the first evidence for the existence of a gene that overlaps the human **dystrophin** gene.

=> d his

(FILE 'HOME' ENTERED AT 13:27:56 ON 15 APR 2004)

FILE 'MEDLINE, AGRICOLA, CANCERLIT, SCISEARCH, CAPLUS, MEDICONF' ENTERED AT 13:28:15 ON 15 APR 2004

E BARBER ELIZA?/AU

L1 2 S E4
L2 4 S E5
L3 6 S L1 OR L2
L4 6 DUP REM L3 (0 DUPLICATES REMOVED)

=> d an ti so au ab pi l4 1-6

L4 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:655353 CAPLUS
DN 137:164721
TI Human apo-dystrophin-4 gene, its 3' UTR inversion element, associated proteins and peptides, and therapeutic use thereof
SO Brit. UK Pat. Appl., 222 pp.
CODEN: BAXXDU
IN **Barber, Elizabeth**
AB The invention provides full-length cDNA sequences for a human putative low-affinity ligand for CD33 termed apo-dystrophin-4 (also called apo-4, with 70% homol. to dystrophin gene) isolated through the panning process using Fc-CD33 as ligand probe to screen placenta cDNA library. The apo-dystrophin-4 cDNA contains three AUG codons (+25, +88, +100), 23 stop codons, several splice sites, cap sites, CAAT boxes, polyA sites, polyT region, inverted repeats, and direct repeats. A 137-bp region 1.62kb (size of the major apo-4 transcript) downstream in the 3' UTR in the reverse orientation of apo-dystrophin-4 gene, homologous to dystrophin gene, is identified as an important regulatory element. The inversion at gene apo-dystrophin-4 3' end appears necessary for the production of its two major protein products, 50Kd and 40Kd. The predicted protein sequences with all the stop codons suppressed are provided. Furthermore, three peptides are selected from apo-dystrophin-4 protein named as P1 (MYPIMEYSCSDRN), P2 (YIYIGNLNVADTM) and P3 (DDLGRAMESLVSVMTDEE) are used to prepare antisera to characterize apo-dystrophin-4 gene products. In vitro transcription and translation demonstrates that the full-length apo-dystrophin transcript produces proteins of 40 Kd and 50Kd under reducing conditions. The proposed potential apo-dystrophin-4 activation mechanism includes inserting an inverted sequence containing the basic hallmarks of a retrovirus or transposable element into a specific target site in the dystrophin gene prior to splicing and most likely during gene rearrangement, and reading through stop codons. The invention is of use in gene therapy, especially for diseases involving gene truncation, such leukemia.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2368064	A1	20020424	GB 2001-1124	20010116
	GB 2368064	B2	20021113		
	US 2002099015	A1	20020725	US 2001-966264	20010928

L4 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:500872 CAPLUS
DN 122:237319
TI Characterization of CD33 as a new member of the sialoadhesin family of cellular interaction molecules
SO Blood (1995), 85(8), 2005-12
CODEN: BLOOAW; ISSN: 0006-4971
AU Freeman, Sylvie D.; Kelm, Sorge; **Barber, Elizabeth K.**; Crocker, Paul R.
AB CD33 is a member of the Ig superfamily that is restricted to cells of the myelomonocytic lineage but whose functions and binding properties are unknown. It shares sequence similarity with sialoadhesin, CD22, and the myelin-associated glycoprotein, which constitute the sialoadhesin family of sialic acid-dependent cell adhesion mols. Here, the authors show that CD33 is a 4th member of this family. As a model for sialic acid-dependent binding, human erythrocytes were derivatized with N-acetylneuraminic acid

(NeuAc) in different linkages. A recombinant soluble form of CD33, Fc-CD33, bound red blood cells with a specificity similar to that of sialoadhesin, preferring NeuAcα2,3Gal in N- and O-glycans over NeuAcα2,6Gal in N-glycans. Fc-CD33 also bound selectively to the myeloid cell lines HL-60 and U937. However, CD33 was unable to mediate cell binding after transient expression in COS cells, despite high levels of surface expression. Pretreatment of the CD33-transfected cells with sialidase rendered them capable of mediating sialic acid-dependent binding. Thus, CD33 can function as a sialic acid-dependent cell adhesion mol. and binding can be modulated by endogenous sialoglycoconjugates when CD33 is expressed in a plasma membrane.